

101500428

DT04 Rec'd PCT/PTO 28 JUN 2004

PATENT
Attorney Docket No. 229576
Client Reference No. 201213

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

SUGARU et al.

Application No. Unassigned

Art Unit: Unassigned

Filed: June 28, 2004

Examiner: Unassigned

For: REMEDIES FOR CIBOPHOBIA OR
LIFESTYLE-RELATED DISEASES AND
METHOD OF SCREENING THE SAME

SUBMISSION OF SEQUENCE LISTING

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with the requirements of 37 CFR 1.821-1.825, a sequence listing is being submitted as part of the patent application. The sequence listing is in the form of both a paper copy and a computer readable copy on a computer diskette. The undersigned hereby verifies that the content of the paper copy and the computer readable copy, as concurrently being submitted, are the same.

Respectfully submitted,


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Date: June 28, 2004

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SEQUENCE LISTING

<110> Sumitomo Pharmaceuticals CO., LTD.

<120> Therapeutic Agent for Anorexia Nervosa or Life-Style Related Diseases, and Method for Screening Same

<130> 09517

<150> JP 2001-397523

<151> 2001-12-27

<160> 29

<170> PatentIn version 3.1

<210> 1

<211> 1038

<212> RNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(1035)

<400> 1

aug uac aag gac ugc auc gag ucc acu gga gac uau uuu cuu cuc ugu

48

Met Tyr Lys Asp Cys Ile Glu Ser Thr Gly Asp Tyr Phe Leu Leu Cys			
1	5	10	15
gac gcc gag ggg cca ugg ggc auc auu cug gag ucc cug gcc aua cuu			96
Asp Ala Glu Gly Pro Trp Gly Ile Ile Leu Glu Ser Leu Ala Ile Leu			
20	25	30	
ggc auc gug guc aca auu cug cua cuc uua gca uuu cuc uuc cuc aug			144
Gly Ile Val Val Thr Ile Leu Leu Leu Ala Phe Leu Phe Leu Met			
35	40	45	
cga aag auc caa gac ugc agc cag ugg aau guc cuc ccc acc cag cuc			192
Arg Lys Ile Gln Asp Cys Ser Gln Trp Asn Val Leu Pro Thr Gln Leu			
50	55	60	
cuc uuc cuc cug agu guc cug ggg cuc uuc gga cuc gcu uuu gcc uuc			240
Leu Phe Leu Leu Ser Val Leu Gly Leu Phe Gly Leu Ala Phe Ala Phe			
65	70	75	80
auc auc gag cuc aau caa caa acu gcc ccc gua cgc uac uuu cuc uuu			288
Ile Ile Glu Leu Asn Gln Gln Thr Ala Pro Val Arg Tyr Phe Leu Phe			
85	90	95	
ggg guu cuc uuu gcu cuc ugu uuc uca ugc cuc uua gcu cau gcc ucc			336
Gly Val Leu Phe Ala Leu Cys Phe Ser Cys Leu Leu Ala His Ala Ser			
100	105	110	
aau cua gug aag cug guu cgg ggu ugu guc ucc uuc ucc ugg acg aca			384
Asn Leu Val Lys Leu Val Arg Gly Cys Val Ser Phe Ser Trp Thr Thr			
115	120	125	
auu cug ugc auu gcu auu ggu ugc agu cug uug caa auc aua auu gcc			432
Ile Leu Cys Ile Ala Ile Gly Cys Ser Leu Leu Gln Ile Ile Ala			
130	135	140	
acu gag uau gug acu cuc auc aug acc aga ggu aug aug uuu gug aau			480

Thr Glu Tyr Val Thr Leu Ile Met Thr Arg Gly Met Met Phe Val Asn
 145 150 155 160
 aug aca ccc ugc cag cuc aau gug gac uuu guu gua cuc cug guc uau 528
 Met Thr Pro Cys Gln Leu Asn Val Asp Phe Val Val Leu Leu Val Tyr
 165 170 175
 guc cuc uuc cug aug gcc cuc aca uuc uuc guc ucc aaa gcc acc uuc 576
 Val Leu Phe Leu Met Ala Leu Thr Phe Phe Val Ser Lys Ala Thr Phe
 180 185 190
 ugu ggc ccg ugu gag aac ugg aag cag cau gga agg cuc auc uuu auc 624
 Cys Gly Pro Cys Glu Asn Trp Lys Gln His Gly Arg Leu Ile Phe Ile
 195 200 205
 acu gug cuc uuc ucc auc auc ugg gug gug ugg auc ucc aug cuc 672
 Thr Val Leu Phe Ser Ile Ile Trp Val Val Trp Ile Ser Met Leu
 210 215 220
 cug aga ggc aac ccg cag uuc cag cga cag ccc cag ugg gac gac ccg 720
 Leu Arg Gly Asn Pro Gln Phe Gln Arg Gln Pro Gln Trp Asp Asp Pro
 225 230 235 240
 guc guc ugc auu gcu cug guc acc aac gca ugg guu uuc cug cug cug 768
 Val Val Cys Ile Ala Leu Val Thr Asn Ala Trp Val Phe Leu Leu Leu
 245 250 255
 uac auc guc ccu gag cuc ugc auu cuc uac aga ucg ugu aga cag gag 816
 Tyr Ile Val Pro Glu Leu Cys Ile Leu Tyr Arg Ser Cys Arg Gln Glu
 260 265 270
 ugc ccu uua caa ggc aau gcc ugc ccc guc aca gcc uac caa cac agc 864
 Cys Pro Leu Gln Gly Asn Ala Cys Pro Val Thr Ala Tyr Gln His Ser
 275 280 285
 uuc caa gug gag aac cag gag cuc ucc aga gcc cga gac agu gau gga 912

Phe Gln Val Glu Asn Gln Glu Leu Ser Arg Ala Arg Asp Ser Asp Gly				
290	295	300		
gcu gag gag gau gua gca uua acu uca uau ggu acu ccc auu cag ccg				960
Ala Glu Glu Asp Val Ala Leu Thr Ser Tyr Gly Thr Pro Ile Gln Pro				
305	310	315	320	
cag acu guu gau ccc aca caa gag ugu uuc auc cca cag gcu aaa cua				1008
Gln Thr Val Asp Pro Thr Gln Glu Cys Phe Ile Pro Gln Ala Lys Leu				
325	330	335		
agc ccc cag caa gau gca gga gga gua uaa				1038
Ser Pro Gln Gln Asp Ala Gly Gly Val				
340	345			

<210> 2

<211> 345

<212> PRT

<213> Homo sapiens

<400> 2

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Asp Ala Glu Gly Pro Trp Gly Ile Ile Leu Glu Ser Leu Ala Ile Leu

20	25	30
----	----	----

Gly Ile Val Val Thr Ile Leu Leu Leu Ala Phe Leu Phe Leu Met

35	40	45
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Arg Lys Ile Gln Asp Cys Ser Gln Trp Asn Val Leu Pro Thr Gln Leu

50 55 60

Leu Phe Leu Leu Ser Val Leu Gly Leu Phe Gly Leu Ala Phe Ala Phe

65 70 75 80

Ile Ile Glu Leu Asn Gln Gln Thr Ala Pro Val Arg Tyr Phe Leu Phe

85 90 95

Gly Val Leu Phe Ala Leu Cys Phe Ser Cys Leu Leu Ala His Ala Ser

100 105 110

Asn Leu Val Lys Leu Val Arg Gly Cys Val Ser Phe Ser Trp Thr Thr

115 120 125

Ile Leu Cys Ile Ala Ile Gly Cys Ser Leu Leu Gln Ile Ile Ile Ala

130 135 140

Thr Glu Tyr Val Thr Leu Ile Met Thr Arg Gly Met Met Phe Val Asn

145 150 155 160

Met Thr Pro Cys Gln Leu Asn Val Asp Phe Val Val Leu Leu Val Tyr

165 170 175

Val Leu Phe Leu Met Ala Leu Thr Phe Phe Val Ser Lys Ala Thr Phe

180 185 190

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Cys Gly Pro Cys Glu Asn Trp Lys Gln His Gly Arg Leu Ile Phe Ile

195 200 205

Thr Val Leu Phe Ser Ile Ile Trp Val Val Trp Ile Ser Met Leu

210 215 220

Leu Arg Gly Asn Pro Gln Phe Gln Arg Gln Pro Gln Trp Asp Asp Pro

225 230 235 240

Val Val Cys Ile Ala Leu Val Thr Asn Ala Trp Val Phe Leu Leu Leu

245 250 255

Tyr Ile Val Pro Glu Leu Cys Ile Leu Tyr Arg Ser Cys Arg Gln Glu

260 265 270

Cys Pro Leu Gln Gly Asn Ala Cys Pro Val Thr Ala Tyr Gln His Ser

275 280 285

Phe Gln Val Glu Asn Gln Glu Leu Ser Arg Ala Arg Asp Ser Asp Gly

290 295 300

Ala Glu Glu Asp Val Ala Leu Thr Ser Tyr Gly Thr Pro Ile Gln Pro

305 310 315 320

Gln Thr Val Asp Pro Thr Gln Glu Cys Phe Ile Pro Gln Ala Lys Leu

325 330 335

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Ser Pro Gln Gln Asp Ala Gly Gly Val

340

345

<210> 3

<211> 1324

<212> RNA

<213> Mus musculus

<220>

<221> CDS

<222> (148)..(1047)

<400> 3

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ccaccagcac agccucagag gcuuccggag uagacucgga ggaggagacc agacaucgu 120

ucucgugagg ucuaccuaa agucacc aug uau gag gac ugc gug aag ucc aca 174

Met Tyr Glu Asp Cys Val Lys Ser Thr

1

5

gaa gac uau uac cuc uuc ugu gac aac gag ggg cca ugg gcc auu guu 222

Glu Asp Tyr Tyr Leu Phe Cys Asp Asn Glu Gly Pro Trp Ala Ile Val

10 15 20 25

cug gag ucc uug gca gug auu ggc aua gug guu acc aua uug cua cuc 270

Leu Glu Ser Leu Ala Val Ile Gly Ile Val Val Thr Ile Leu Leu

30

35

40

cug gca uuu cug uuc cuc aug cgg aag guu cag gac ugc agc cag ugg 318

Leu Ala Phe Leu Phe Leu Met Arg Lys Val Gln Asp Cys Ser Gln Trp			
45	50	55	
aac gug cuu ccc acu cag uuc cuc uuc cug cug gcu gug cuc ggg cuc			366
Asn Val Leu Pro Thr Gln Phe Leu Phe Leu Leu Ala Val Leu Gly Leu			
60	65	70	
uuc gga cuu acu uuu gcc uuc auc auc caa cuc aac cau caa acu gcc			414
Phe Gly Leu Thr Phe Ala Phe Ile Ile Gln Leu Asn His Gln Thr Ala			
75	80	85	
ccu guu cgc uac uuc cuc uuu ggg guu cuc uuu gcu auc ugc uuc ucc			462
Pro Val Arg Tyr Phe Leu Phe Gly Val Leu Phe Ala Ile Cys Phe Ser			
90	95	100	105
ugc cuc cug gcu cau gcc ucc aac cug gug aag cug guc cgg ggu aga			510
Cys Leu Leu Ala His Ala Ser Asn Leu Val Lys Leu Val Arg Gly Arg			
110	115	120	
guc ucc uuc ugc ugg aca aca auu cug uuc auu gcu auc ggu guc agc			558
Val Ser Phe Cys Trp Thr Thr Ile Leu Phe Ile Ala Ile Gly Val Ser			
125	130	135	
cug uug cag acc auc auu gcg aua gag uau gug acc cuc auc aug acc			606
Leu Leu Gln Thr Ile Ile Ala Ile Glu Tyr Val Thr Leu Ile Met Thr			
140	145	150	
aga ggc uug aug uuc gag cau aug aca ccg uau cag cuc aau gug gac			654
Arg Gly Leu Met Phe Glu His Met Thr Pro Tyr Gln Leu Asn Val Asp			
155	160	165	
uuu guc ugu cuc cug auc uau guc cuc uuc cug aug gcc cuc acu uuc			702
Phe Val Cys Leu Leu Ile Tyr Val Leu Phe Leu Met Ala Leu Thr Phe			
170	175	180	185
uuc guc ucc aag gcc acc uuc ugu ggc cca ugu gag aac ugg aaa cag			750

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Phe Val Ser Lys Ala Thr Phe Cys Gly Pro Cys Glu Asn Trp Lys Gln
190 195 200
cac gga agg cuc aua uuu gcu acu gug cug guc ucu auc auu auc ugg 798
His Gly Arg Leu Ile Phe Ala Thr Val Leu Val Ser Ile Ile Ile Trp
205 210 215

gug gug ugg auc ucc aug cuc uug aga ggc aac ccc cag cuc cag cga 846
Val Val Trp Ile Ser Met Leu Leu Arg Gly Asn Pro Gln Leu Gln Arg
220 225 230

cag ccc cac ugg gac gau gca guc auc ugc auu ggc cug guc acc aac 894
Gln Pro His Trp Asp Asp Ala Val Ile Cys Ile Gly Leu Val Thr Asn
235 240 245

gcu ugg guc uuc cug cug auc uac auc ccu gag cug agc aua cuc 942
Ala Trp Val Phe Leu Leu Ile Tyr Ile Ile Pro Glu Leu Ser Ile Leu
250 255 260 265

uac agg uca ugu agg cag gag ugu ccu aca caa ggc aac guc ugc cag 990
Tyr Arg Ser Cys Arg Gln Glu Cys Pro Thr Gln Gly Asn Val Cys Gln
270 275 280

guc ccu guc uac caa cgc agc uuc agg aug gau acc cag gaa ccc acc 1038
Val Pro Val Tyr Gln Arg Ser Phe Arg Met Asp Thr Gln Glu Pro Thr
285 290 295
aga gag ugc ugaucccagc cgggagauac ucauccccauc agcuacacua 1087
Arg Glu Cys

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300

agccccacagc aagaugcagg auuguuaagc uacuggaaac agcauagaga caaccuggaa 1147

gagugcccug cuccacacag cccuuaagag cccaggggag cacuggacac acugucaaug 1207

aagcauccuu ccuguccuu ccucucuguu ucccugccu uuccacucuu cuggacccag 1267

ccucugaaga cugucauguc cugcacaaauu aaaaucuugu ugccacccua aaaaaaa 1324

<210> 4

<211> 300

<212> PRT

<213> **Mus musculus**

<400> 4

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1

5

10

15

Asp Asn Glu Gly Pro Trp Ala Ile Val Leu Glu Ser Leu Ala Val Ile

20

25

30

Gly Ile Val Val Thr Ile Leu Leu Leu Ala Phe Leu Phe Leu Met

35

40

45

Arg Lys Val Gln Asp Cys Ser Gln Trp Asn Val Leu Pro Thr Gln Phe

50

55

60

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Leu Phe Leu Leu Ala Val Leu Gly Leu Phe Gly Leu Thr Phe Ala Phe
65 70 75 80

Ile Ile Gln Leu Asn His Gln Thr Ala Pro Val Arg Tyr Phe Leu Phe
85 90 95

Gly Val Leu Phe Ala Ile Cys Phe Ser Cys Leu Leu Ala His Ala Ser
100 105 110

Asn Leu Val Lys Leu Val Arg Gly Arg Val Ser Phe Cys Trp Thr Thr
115 120 125

Ile Leu Phe Ile Ala Ile Gly Val Ser Leu Leu Gln Thr Ile Ile Ala
130 135 140

Ile Glu Tyr Val Thr Leu Ile Met Thr Arg Gly Leu Met Phe Glu His
145 150 155 160

Met Thr Pro Tyr Gln Leu Asn Val Asp Phe Val Cys Leu Leu Ile Tyr
165 170 175

Val Leu Phe Leu Met Ala Leu Thr Phe Phe Val Ser Lys Ala Thr Phe
180 185 190

Cys Gly Pro Cys Glu Asn Trp Lys Gln His Gly Arg Leu Ile Phe Ala
195 200 205

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Thr Val Leu Val Ser Ile Ile Ile Trp Val Val Trp Ile Ser Met Leu

210

215

220

Leu Arg Gly Asn Pro Gln Leu Gln Arg Gln Pro His Trp Asp Asp Ala

225

230

235

240

Val Ile Cys Ile Gly Leu Val Thr Asn Ala Trp Val Phe Leu Leu Ile

245

250

255

Tyr Ile Ile Pro Glu Leu Ser Ile Leu Tyr Arg Ser Cys Arg Gln Glu

260

265

270

Cys Pro Thr Gln Gly Asn Val Cys Gln Val Pro Val Tyr Gln Arg Ser

275

280

285

Phe Arg Met Asp Thr Gln Glu Pro Thr Arg Glu Cys

290

295

300

<210> 5

<211> 20

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as primer for amplifying GPRC5D mRNA.

<400> 5

acctttctg tgacaacgag

20

<210> 6

<211> 20

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as primer for amplifying GPRC5D mRNA.

<400> 6

ggaaggaggac atagatcagg

20

<210> 7

<211> 25

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense DNA for inhibiting expression of GPRC5D.

<400> 7

tcatacatgg tgacttata gtaga

25

<210> 8

<211> 25

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense DNA for sequence resulted from mutation causing abnormal splicing at position 705 of β -globin pre-mRNA in thalassemia.

<400> 8

cctcttacct cagttacaat ttata

25

<210> 9

<211> 25

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as primer for amplifying GPRC5D mRNA.

<400> 9

ggagtatctc atcccatcag ctaca

25

<210> 10

<211> 24

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as primer for amplifying GPRC5D mRNA.

<400> 10

cactttcca ggttgtctct atgc

24

<210> 11

<211> 22

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as primer for amplifying GAPDH mRNA.

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<400> 11

caagagaggc cctatcccaa ct

22

<210> 12

<211> 23

<212> DNA

<213> Artificial/Unknown

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as primer for amplifying GAPDH mRNA.

<400> 12

ctaggccccct cctgttatta tgg

23

<210> 13

<211> 20

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying human G protein Gα16 cDNA fragment containing full length ORF.

<400> 13

17/24

ccatggcccg ctcgctgacc

20

<210> 14

<211> 21

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying human G protein $\text{G}\alpha 16$ cDNA fragment containing full length ORF.

<400> 14

ccgaggctgg agagatagac c

21

<210> 15

<211> 19

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying human G protein $\text{G}\alpha i 2$ cDNA fragment containing full length ORF.

<400> 15

gcggcggagc ggcggaacg

19

<210> 16

<211> 24

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying human G protein G α i2 cDNA fragment containing full length ORF.

<400> 16

ggagaaaagc ggcggggaa cagg

24

<210> 17

<211> 21

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying human G protein G α S2 cDNA fragment containing full length ORF.

<400> 17

ccatgggctg cctcgggaac a

21

<210> 18

<211> 23

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying human G protein G α S2 cDNA fragment containng full length ORF.

<400> 18

ggtttcgcaa aatcaactcg ggg

23

<210> 19

<211> 21

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying human G protein G α 16 cDNA fragment from initiation codon.

<400> 19

atggcccgct cgctgacctg g

21

<210> 20

<211> 21

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying
human G protein G α i2 cDNA fragment from initiation codon.

<400> 20

atgggctgca ccgtgagcgc c

21

<210> 21

<211> 20

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying
human G protein G α S2 cDNA fragment from initiation codon.

<400> 21

atgggctgcc tcggaaacag

20

<210> 22

<211> 18

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying multiple cloning site of plasmid pcDNA3.1(+).

<400> 22

tagaaggcac agtcgagg

18

<210> 23

<211> 24

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Sense strand oligonucleotide designed to construct linker containing nucleotide sequence encoding 6xHis-tag peptide sequence.

<400> 23

gatatccatc atcatcatca ccat

24

<210> 24

<211> 18

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Antisense strand oligonucleotide desined to construct linker containing nucleotide sequence encoding 6xHis-tag peptide sequence.

<400> 24

atgggtgatga tgatgatg

18

<210> 25

<211> 20

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sence primer for amplifying GPRC5D cDNA.

<400> 25

ggagaagggc atcagaaaaac

20

<210> 26

<211> 22

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying GPRC5D cDNA.

<400> 26

ttataactcct cctgcattt gc

22

<210> 27

<211> 58

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as sense primer for amplifying ORF of GPRC5D cDNA.

<400> 27

ggggacaagt ttgtacaaaa aaggcaggctc caccatgtac aaggactgca tcgagtc

58

<210> 28

<211> 55

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying ORF (R form) of GPRC5D cDNA.

<400> 28

ggggaccact ttgtacaaga aagctgggtc attatactcc tcctgcatct tgctg 55

<210> 29

<211> 51

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<223> Oligonucleotide designed to act as antisense primer for amplifying ORF (F form) of GPRC5D cDNA.

<400> 29

ggggaccact ttgtacaaga aagctgggtc tactccct gcatttgct g 51